

# SOUND RECORDINGS

Peter Copeland



# Sound Recordings

PETER COPELAND



The  
British  
Library



Orphée, descendant aux Enfers, dédaigne sa lyre et lui préfère le **Lioretgraph**.



— Où donc avez-vous caché l'orchestre? . . .  
On l'entend et on ne le voit pas.

— C'est le **Lioretgraph**: ses rouleaux sont  
inépuisables et on n'a pas besoin d'offrir des  
rafraîchissements aux musiciens.

Les jours où les ministres sont absents, le  
Président répond aux interpellations avec le  
plus puissant des phonographes, le nouveau  
**Lioretgraph**.

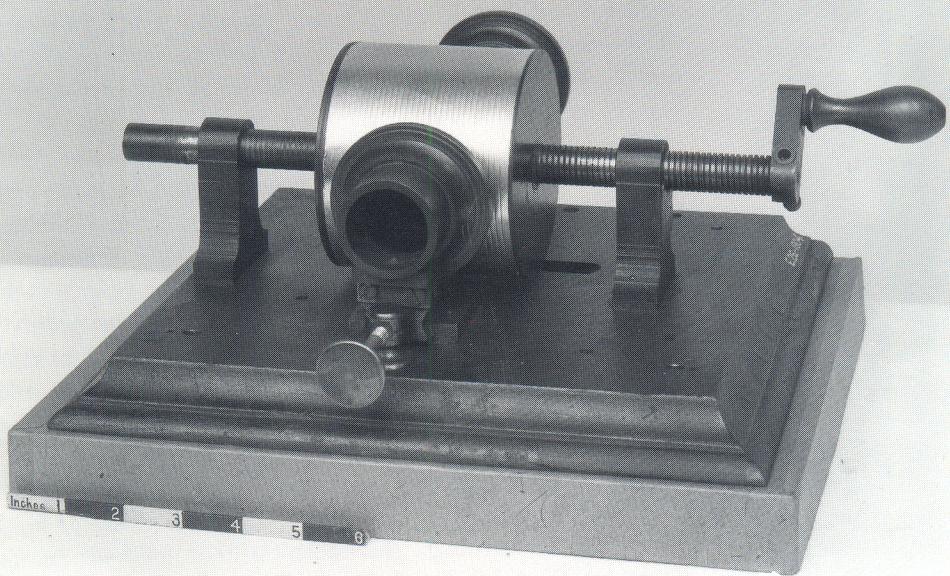
LEFT

Advertisement for Lioret  
Phonographs (see also page  
61).

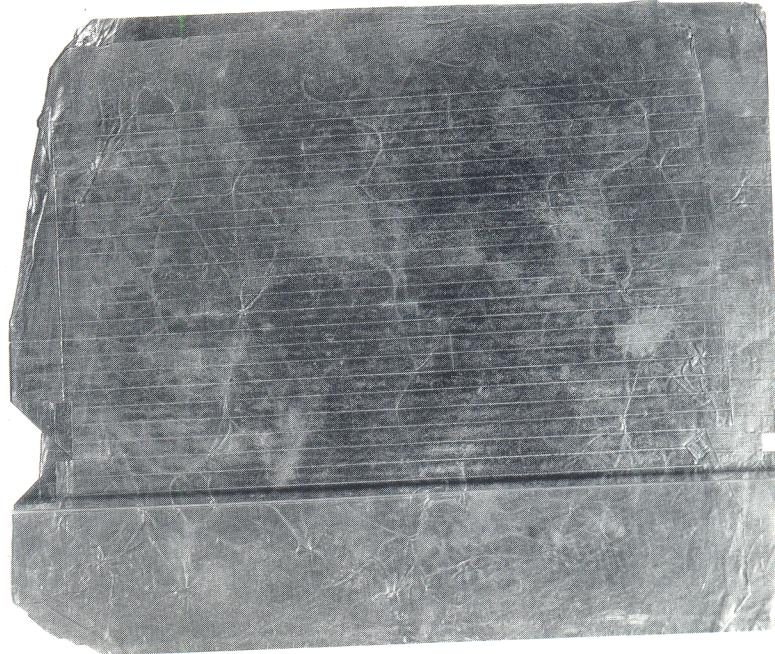
RIGHT

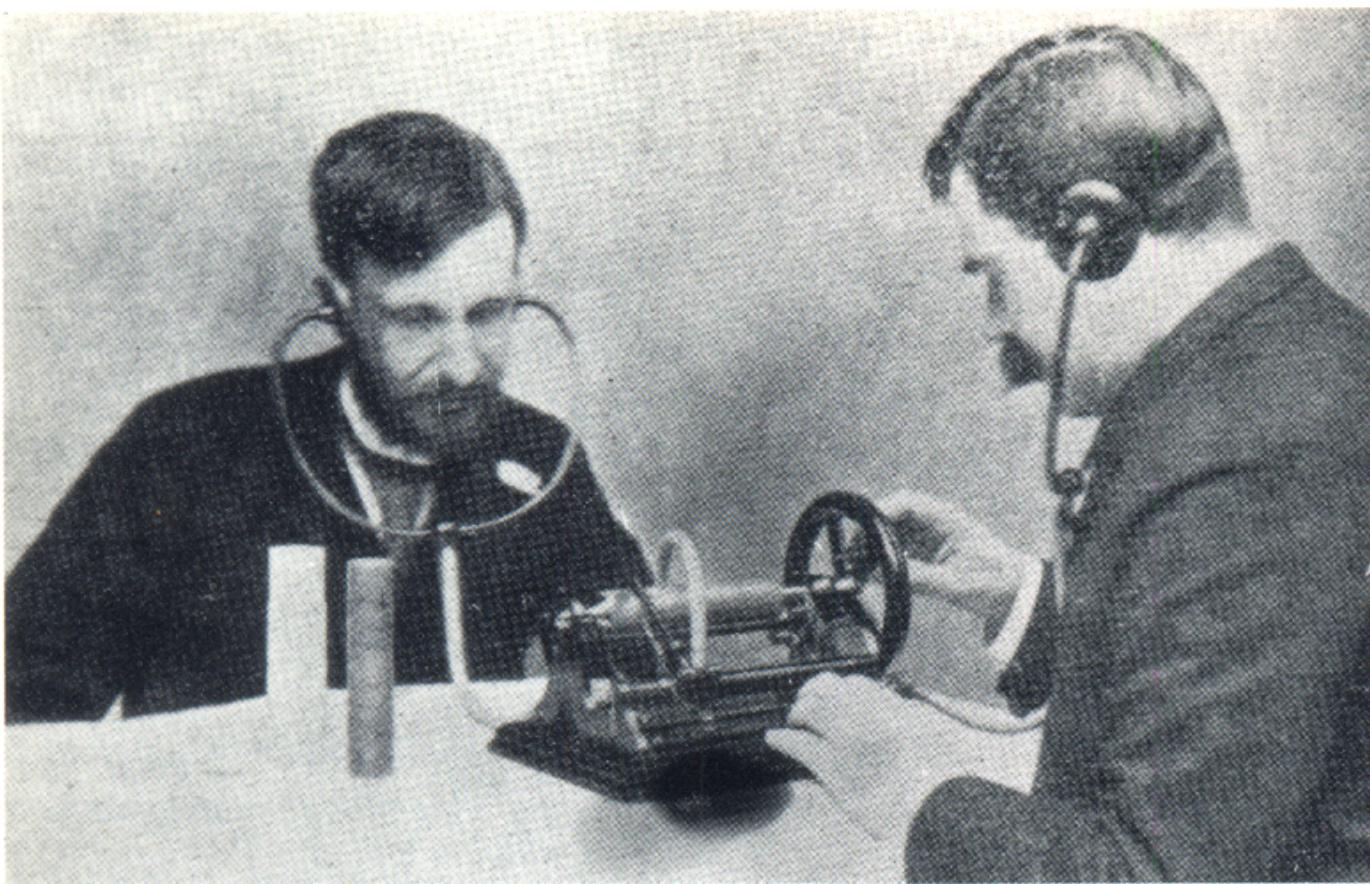
Listeners at the National  
Sound Archive.





1 The original Tinfoil Phonograph. Built by Kruesi for Thomas Edison in 1877, this machine was on display in the Science Museum in London until its return to America in the 1920s.

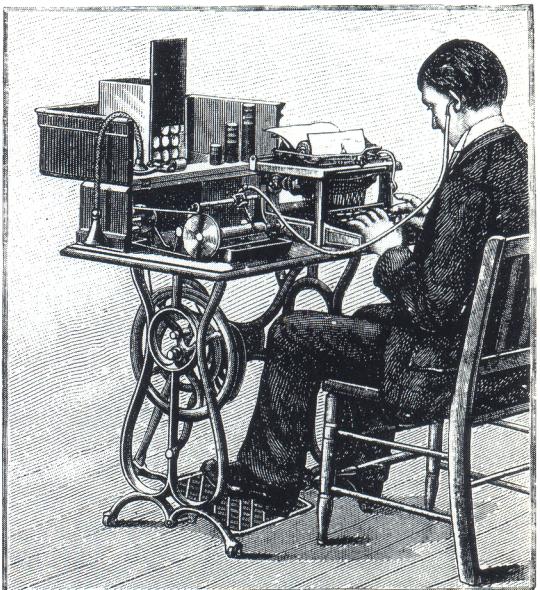
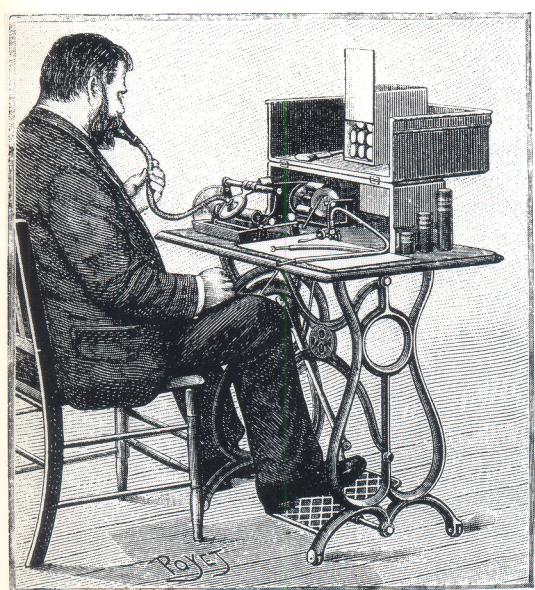


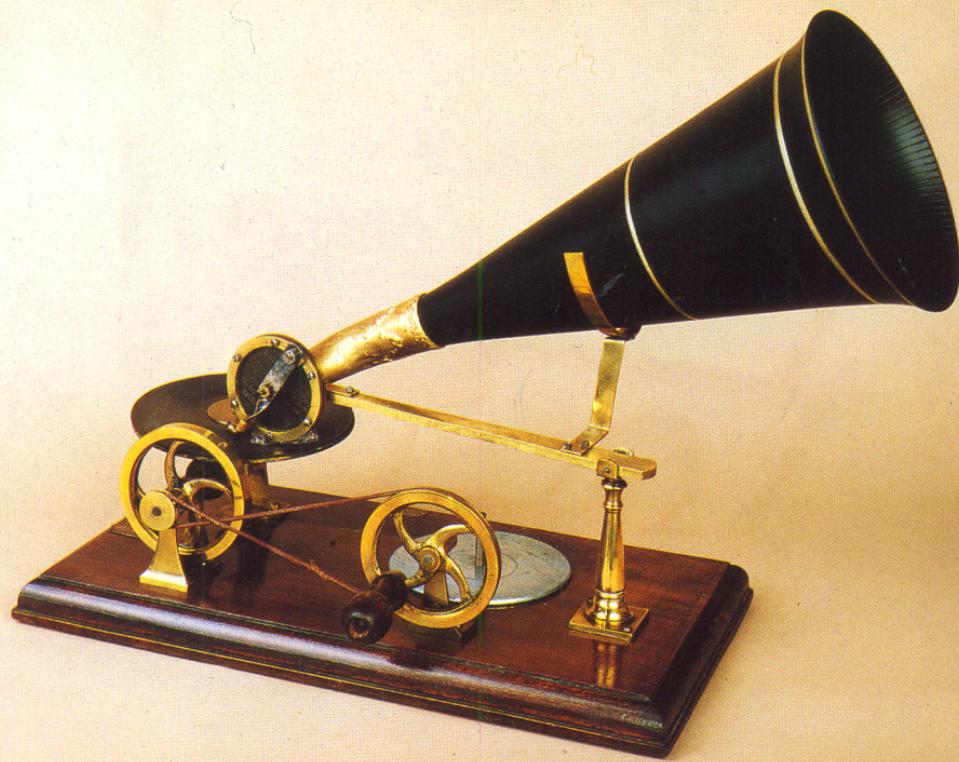


3 The Graphophone.  
C. S. Tainter (on the left)  
listening to his  
'Graphophone', an  
improvement on Edison's  
Phonograph.

4 Edison and the 'Improved Phonograph'. This photograph shows Edison after three continuous days' and nights' work on the machine. For years it was used in support of Edison's dictum 'Invention is one per cent inspiration, ninety nine percent perspiration'.

5,6 Early office dictation machines. On the left a businessman is dictating a letter to be typed, pedalling at a treadle-powered Graphophone to give better speed control than possible with a hand-crank. On the right the typist is transcribing the spoken letter. In those days most typists were male. However, it happened that the first audio typist in Britain was a woman, Mary Ferguson, who was governess to the children of Colonel Gouraud, Edison's representative in Britain.





7 A Berliner 'Gramophone'. An example of the machine as marketed between 1889 and 1893.

8 Studio recording

J

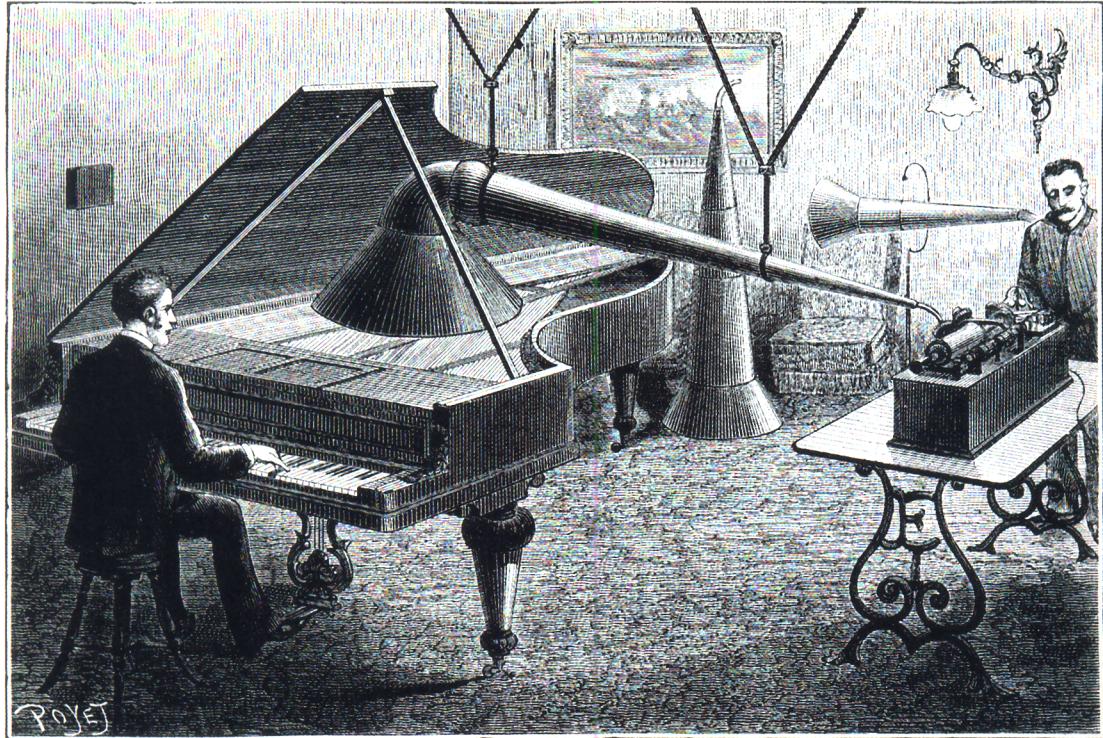
making a recording at the



8 Studio recording.  
Jacques Urlus, tenor,  
making a recording at the  
Edison studio in 1916. By  
this date the recording  
machinery was kept behind  
curtains or screens. This  
was ostensibly to hide  
'trade secrets', although in  
practice there was little new  
development taking place.

8a Sir Henry Wood  
conducting the New  
Queen's Hall Orchestra in  
one of Liszt's Hungarian  
Rhapsodies at Columbia's  
London recording studio.  
The date is about 1919,  
although the record wasn't  
released until 1921.

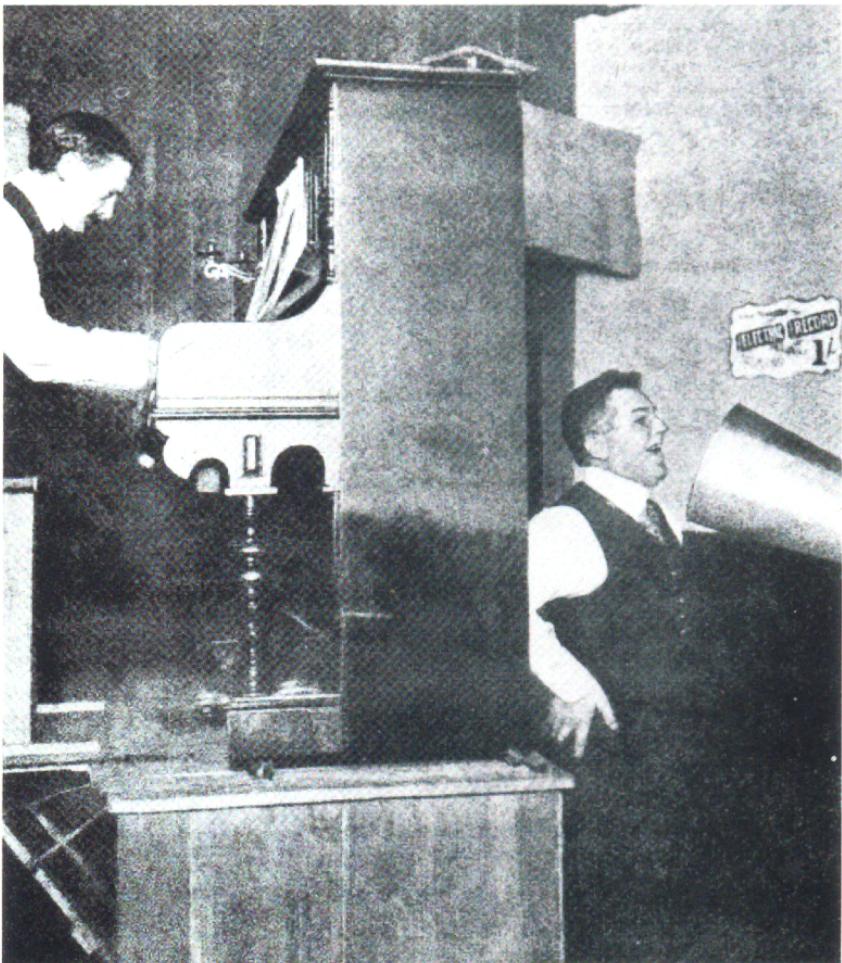




9 Classical piano recording.  
An attempt to capture as  
much sound from a piano  
as possible. With modern  
knowledge, we now know  
that this design of horn  
would have reflected more  
sound than it captured!

THE EXTREME TONE WERE LOST, SO MOST OF THE STANDARD DRUM-KIT (WHICH

10 State-of-the-art piano recording. A piano accompaniment being captured in a London recording studio of 1904.



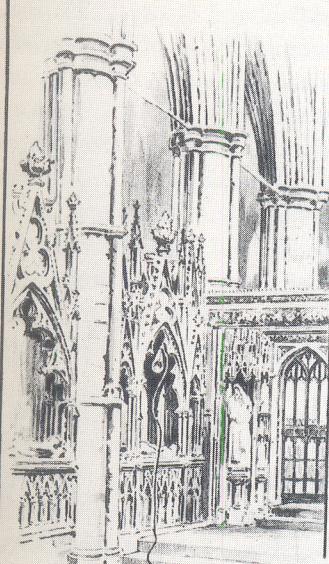


11 Orchestral recording.  
Sir Edward Elgar conducts  
'The Symphony Orchestra'  
for one of the earliest  
orchestral records, 10  
January 1914. The  
undesirable 'tinniness' of  
the horn was tamed by  
wrapping adhesive tape  
round it.

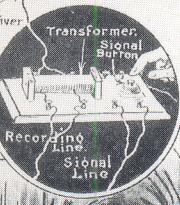
12 Label of 'Abide with me'  
recorded at the Westminster  
Abbey Burial Service of the  
Unknown Soldier.

13 *The Illustrated London  
News* published this  
illustration of the  
technology used to produce  
the Westminster Abbey  
recording.

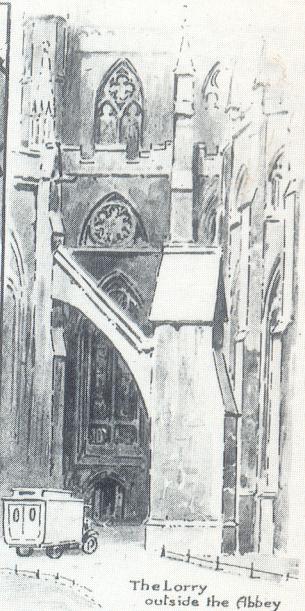
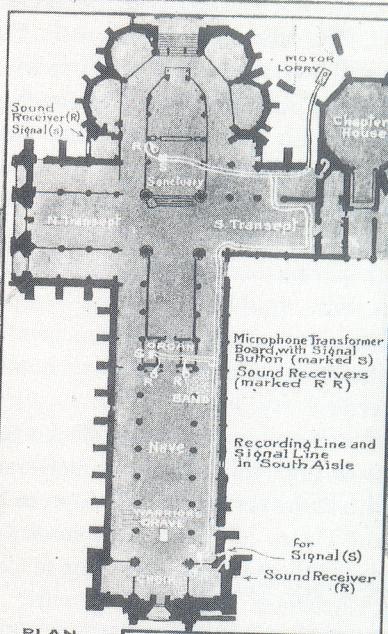




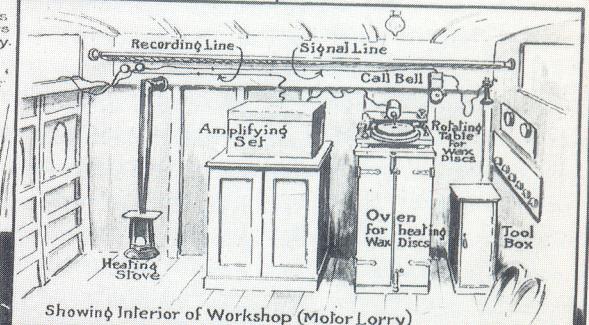
Line to Sound Receiver



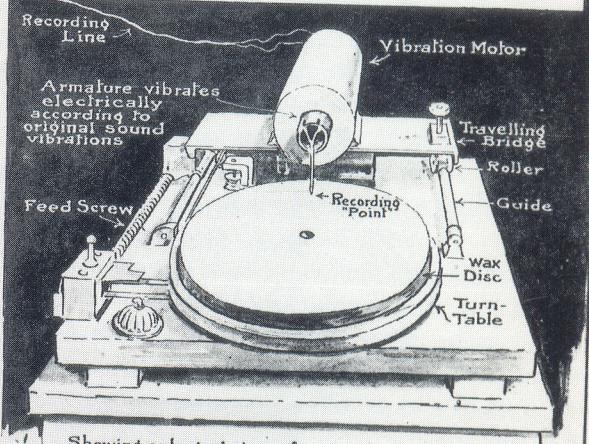
Showing the Sound Receiver which was fixed to the Crouchbank Tomb in the Sanctuary.



PLAN showing lines from Receivers to Motor Lorry.

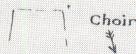


Showing Interior of Workshop (Motor Lorry)



Showing enlarged view of Recording Mechanism.

Showing the two Sound Receivers fixed to the Choir Screen in the Nave.





#### 14 A divided orchestra.

Leopold Stokowski conducts an orchestra which has been divided into individually-miked sections for increased clarity. But there is a limit to how much can be done on these lines, because the sections have to be able to hear each other to maintain precise rhythm.

of the conductor or musical director. One of the earliest collaborators

15 *Blackmail*. A shot taken on the set of Britain's first sound film in 1929. Note that it has been necessary to enclose the camera behind a glass screen to cut down its noise. The director (wearing headphones) is Alfred Hitchcock. The actress, Anny Ondra, had a pronounced Czech accent, so her speech was not recorded synchronously.

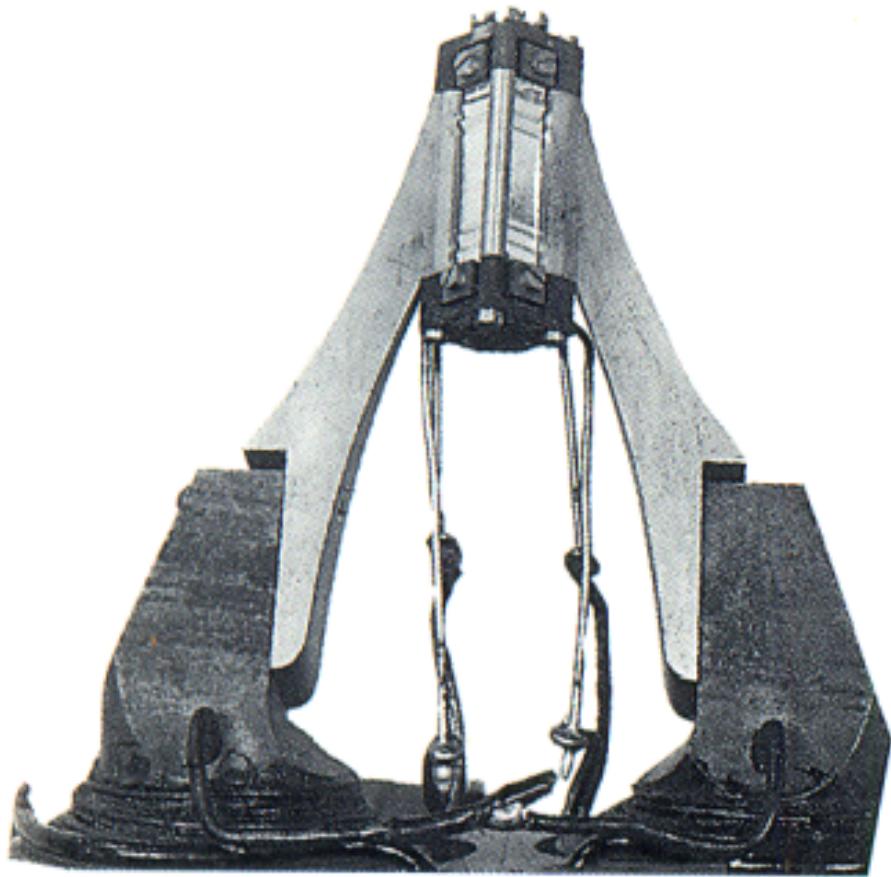


15a 'You ought to have been more careful. Might have cut somebody with that.' Charles Paton's line to Anny Ondra, as she drops the bread-knife during breakfast after the murder. A scene from *Blackmail* (1929)



16 Multi-tracked records. All these records feature artists playing two or more parts. The LP at the back is the supreme example of this, Mike Oldfield's *Tubular Bells*, in which he played all the parts of 45 minutes of music composed by himself. It was issued in 1973.

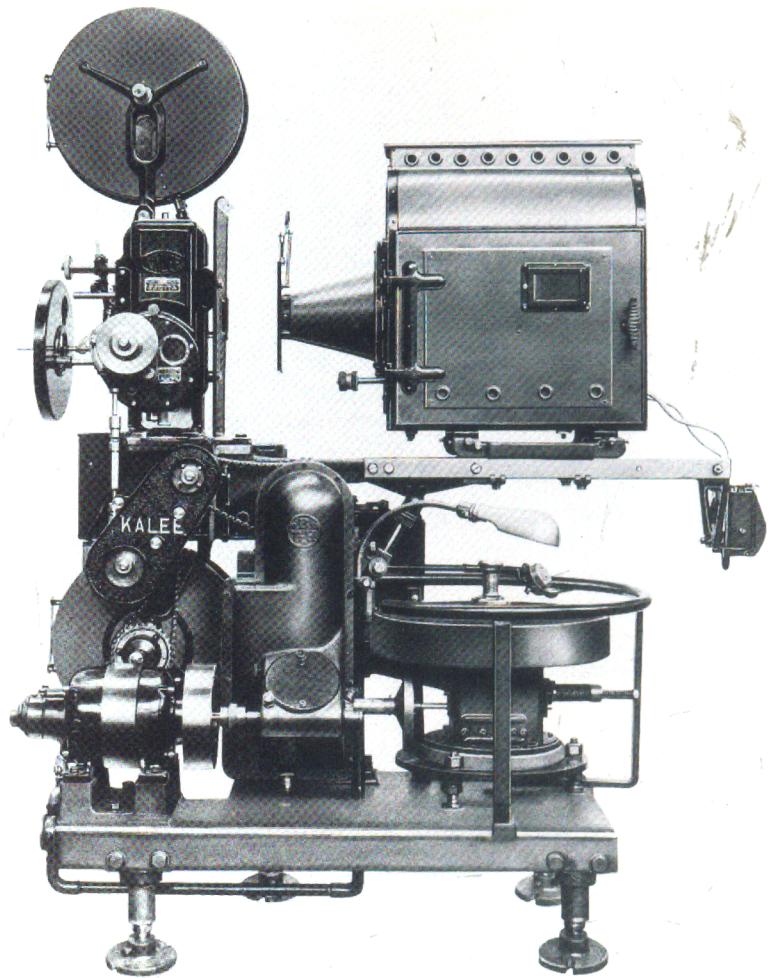




17 The first stereo microphone. Invented by Alan Blumlein in 1931, this comprises two ribbon microphone elements with a common magnet system. The two ribbons are most sensitive to sounds arriving from forty-five degrees on either side of the central axis.

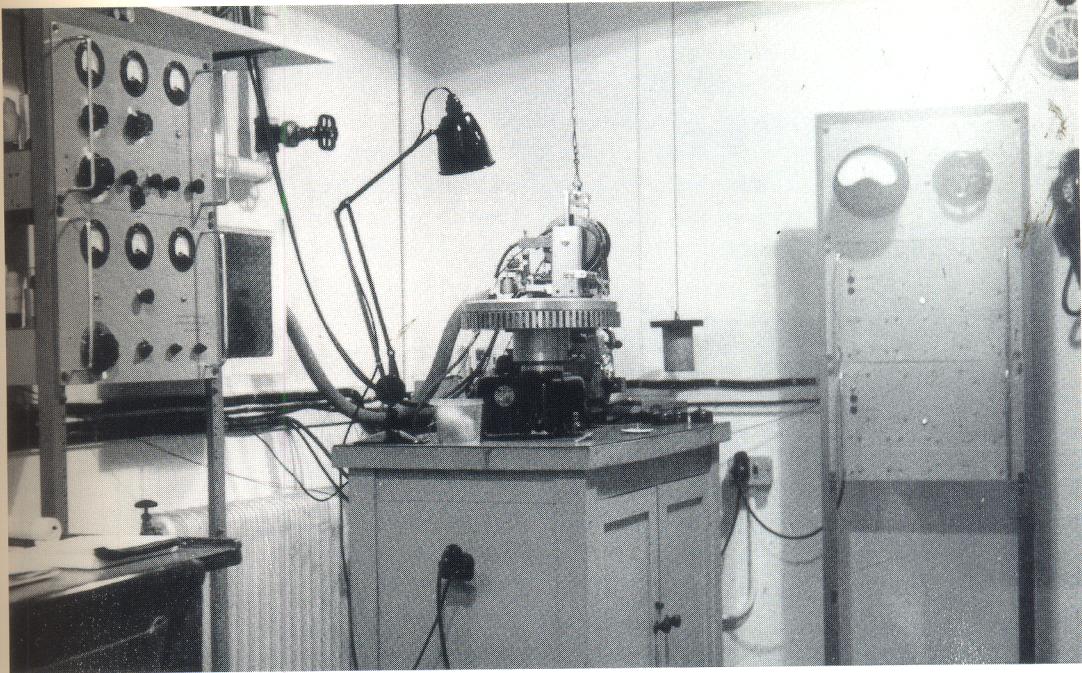
## 18 Early film projector.

This machine was used in cinemas in the late 1920s. It reproduced the soundtrack from a disc record underneath the lamp housing. Both the projector and the turntable were powered by the same motor to ensure they ran at the same speed. Projectionists had to be very careful to orientate the disc and to put the pickup in the right groove for the sound to be in synchronism.



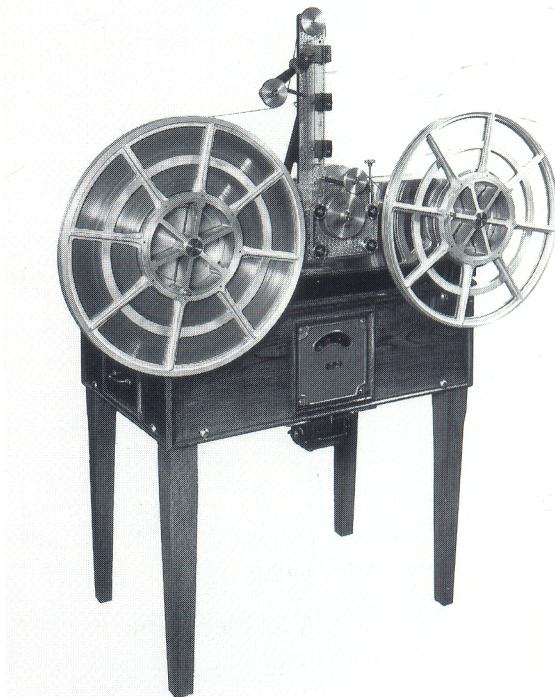
19 Brunswick record sleeve. The Brunswick Company claimed their 'Light Ray Process' could cover the full frequency range perceived by the human ear, but this was the first of many such false claims. The A. & P. Gypsies, by the way, were among the very first stars to have a radio 'series' — a programme which was broadcast regularly from the same station at the same time of the same day of the week.





20 Decca 'ffrr' disc recorder. The world's first machine capable of recording the full frequency range of the human ear. Most of the cutter comprised a powerful electromagnet, hanging over the turntable from the ceiling because of its weight.

21 Steel-tape magnetic recorder, as used by the BBC in the 1930s.

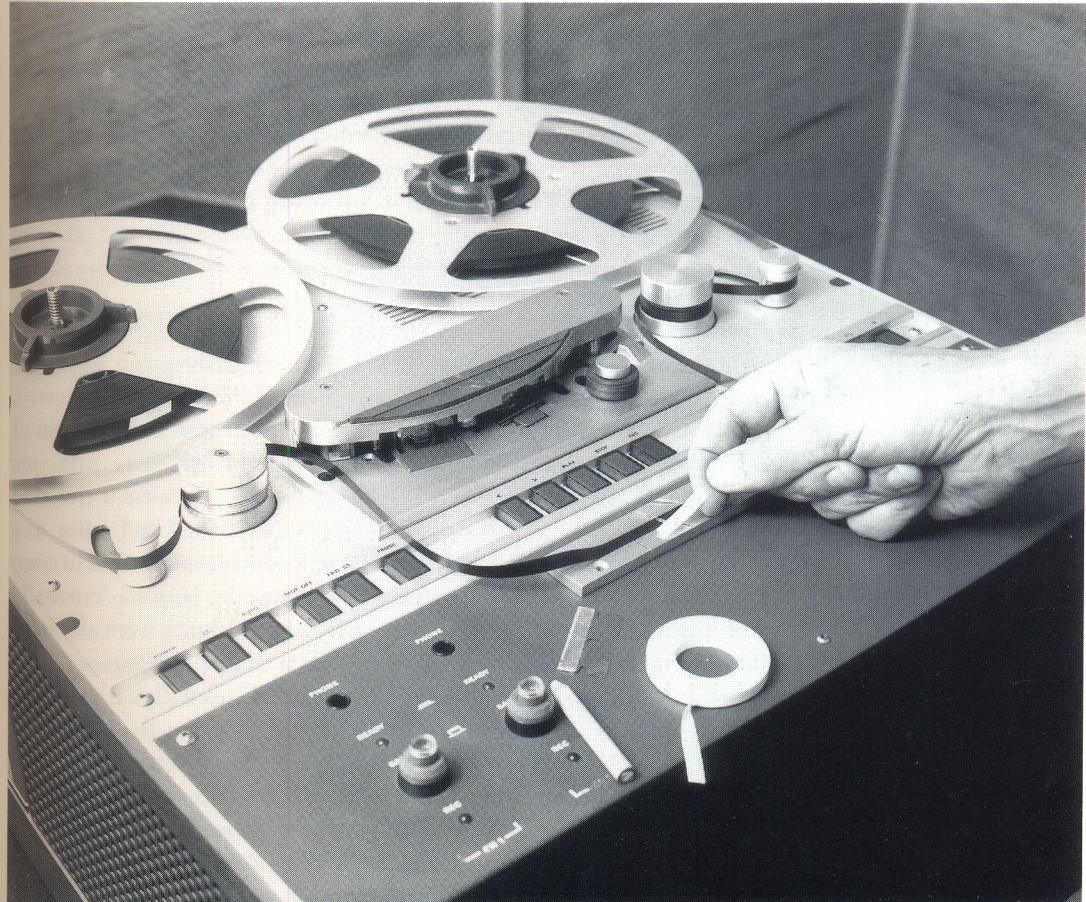




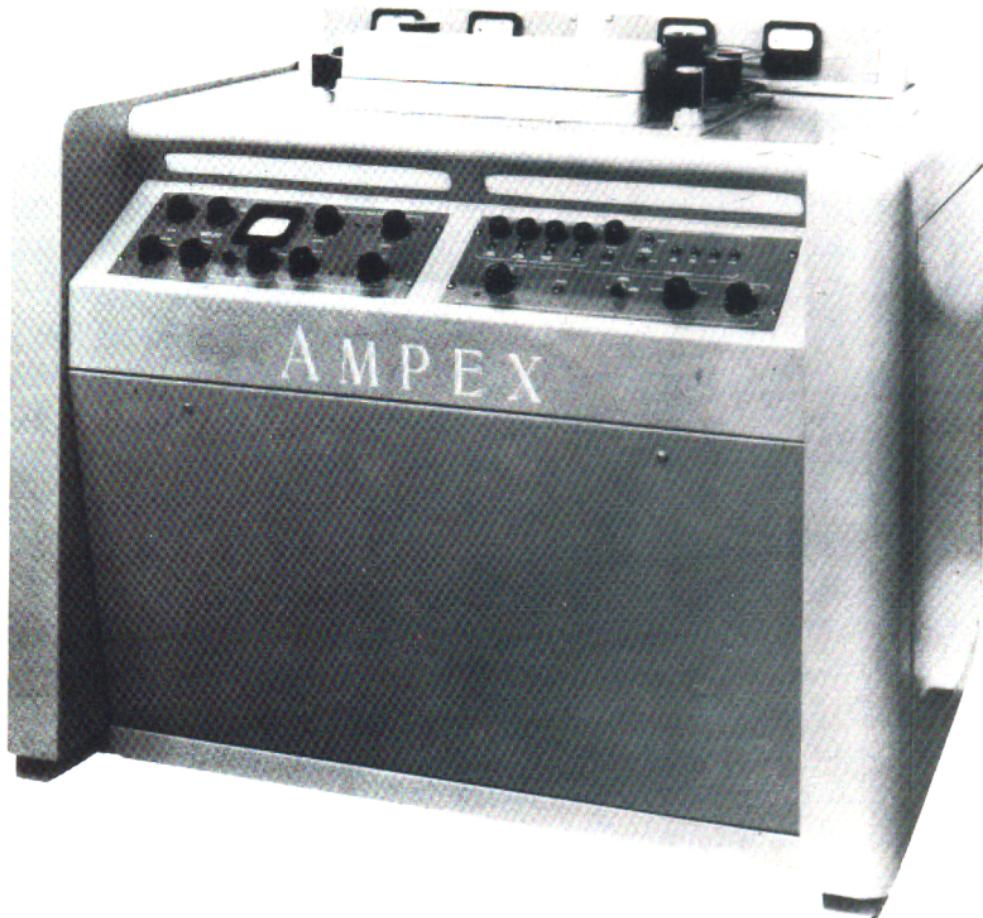
22 An AEG magnetic recorder. This model was first exhibited at the German Radio Exhibition in August 1934. It could record upon 'normal' recording tape, comprising a coating of ferric oxide on a non-magnetic base.

had lower running-costs because the tape could be magnetically erased

23 Tape-editing today. The editor is about to splice two pieces of tape, which he has marked with yellow pencil and cut with a razor blade. Adhesive splicing-tape is applied to the back, so the oxide surface remains uninterrupted.



24 'Quadruplex' video recorder. This type of machine was used for the digital sound recordings made by the Nippon Columbia company in 1972, instead of for video.





25 Berliner disc 'label'. No paper label was used; instead the information was engraved into the master-disc and reproduced on every copy together with the sound. The title is the very last word scratched on the master, in this case 'Loriley', a traditional German melody.



26 Berliner disc. This was one of the first disc records to be marketed in Britain. It is five inches in diameter and single-sided, and comprises 'The Lord's Prayer'. This was a popular title in the early talking-machine industry. Everyone knew the words, so they could follow the distorted reproduction successfully.



27 Cylinder boxes. The ends of cylinder boxes carried the nearest the cylinder format ever got to labels.

28 Paper labels for discs. The left-hand record carries an example of the first type of paper label for discs, introduced in 1901. The right-hand record carries an early example of a 'red label'. They sold for twice the price of a 'black label' record.

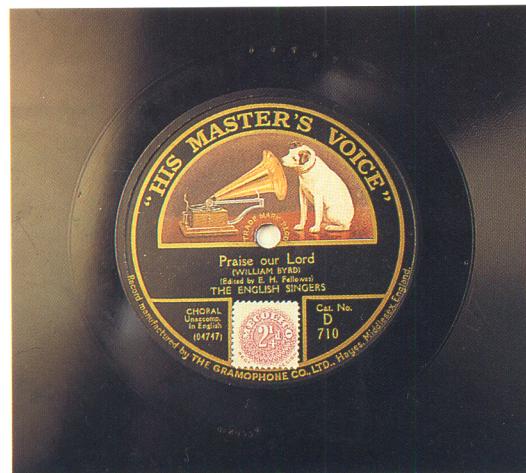


29 Ends of cylinder records, showing the lettering styles used by different manufacturers.



30 Pathé disc label.



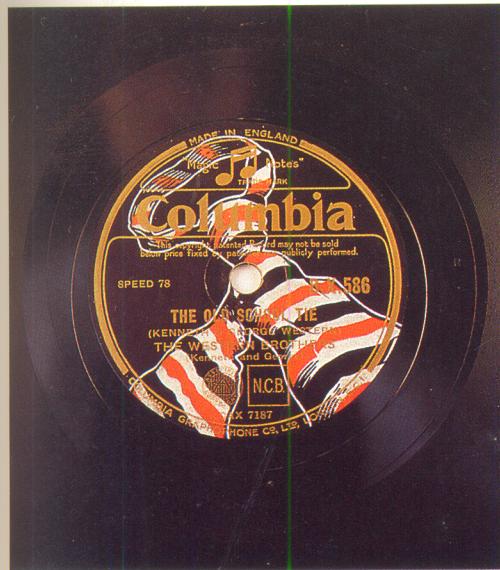




31 (a to j) The Gramophone Company class system. All these records are twelve inches in diameter and were made by the Gramophone Company of Great Britain between 1920 and 1925. The different coloured labels represent different prices, which in turn reflected the eminence of the performer(s). Quantity as well as quality entered this calculation; the buff label (31f) featured two 'Red Label' artists, the pale green (31g) featured four, and the white (31i) four on one side and six on the other. But the top of the range featured the solo tenor Francesco Tamagno. He was the first artist to insist upon royalty payments, and his contract stipulated that the records should be retailed at £1.00 each. He made his recordings in 1904 and died a year later; by 1925 they had been moved to the 'Historic Catalogue'.

32 Edison 'diamond disc'  
label.





33 (a to d) Unusual labels. These records were given conventional catalogue numbers and were sold at normal prices, but they have special label designs.

1553



Record  
manufactured by

THE GRAMOPHONE CO. LTD., Hayes, Middlesex, England

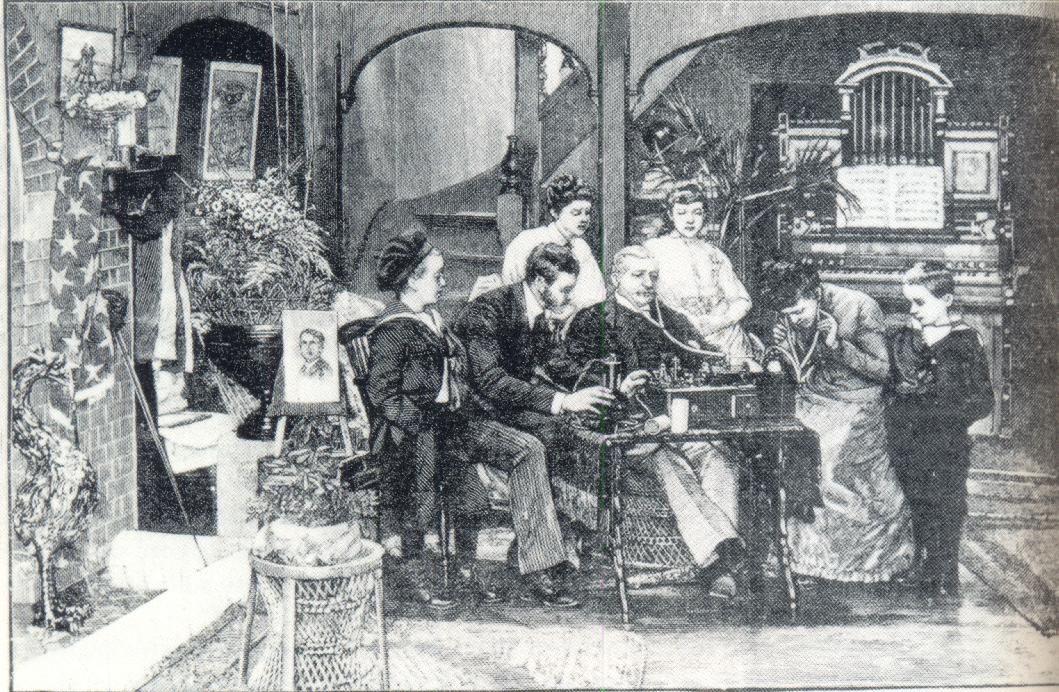
34 The first record by a reigning British Monarch.

35 'Triangle centre' record  
(Brunswick 45-05688).



36 A paperless label, used on seven-inch singles from 1975 onwards, in a surprising reversion to Berliner's technique.





37 Little Menlo. From his house in south London, called 'Little Menlo' after Edison's laboratory at Menlo Park in America, Colonel Gouraud promoted the works of the great inventor. He and his assistants captured the voices of many famous people during the Victorian era.

Disc number with no mark indicates 7-in. and 10-in.  
 \*preceding disc number indicates 10-in. only.  
 †preceding disc number indicates 7-in. only.

### Miscellaneous

833 Address by the Late President McKinley at the Pan-American Exposition  
 851 Dissertation on Love  
 †854 Football Match  
 855 How I Got to Morrow  
 296 How Rogers Brothers Play Golf  
 160 Lincoln's Speech at Gettysburg  
 162 Little Red Riding Hood  
 35 Negro Sermon, A  
 844 On Mutton Pies  
 845 On Sweethearts  
 847 On Trousers  
 850 Political Meeting, A  
 34 Stump Speech on Love  
 664 Twenty-third Psalm, and the Lord's Prayer, The  
 849 Women's Rights Meeting

### Dutch Dialect Series

†26 Schultz on the Man Behind the Gun  
 28 Schultz on Christian Science  
 24 Schultz on George Washington  
 23 Schultz on Kissing  
 25 Schultz on Malaria  
 27 Schultz's Trip to Chicago

### By Joseph Jefferson

\*1469 Rip Meets Meenie after Twenty years Absence (from "Rip Van Winkle")  
 \*1468 Scene in the Mountain (from Second Act, "Rip Van Winkle")

### Uncle Josh Weathersby's Laughing Stories

70 Arrival in New York, Uncle Josh's  
 1518 Automobile, Uncle Josi on an (a new one by Stewart. Very laughable. Bound to be a seller)  
 1506 Baptizing at Hickory Coffers Church, Uncle Josh at a  
 71 Base Ball Game, Uncle Josh at a  
 72 Bicycle, Uncle Josh on a  
 1408 Camp Meeting, Uncle Josh at a  
 1490 Chinese Laundry, Uncle Josh in a •

**Our records can be used on ANY  
 MAKE of disc talking machine.**

39 Coronation record, 1911.



40 Not stereophonic! André Previn is now better known as an orchestral conductor.



41 (a and b)

Advertisements from 1925.

The one on the left promotes a genuine electrical recording success; the one on the right attempts to capitalize on it, although recorded acoustically.

*This Month's Columbia Sensation!*

**4850 SINGING VOICES ON ONE RECORD**

An Amazing 12-inch Record of "Adeste Fideles" sung by 4850 Voices in the Metropolitan Opera House, New York

**ASK TO HEAR IT**  
12inch RECORD N° 9048

4850 VOICES - AND IT SOUNDS LIKE IT

**Columbia**  
New Process RECORDS

Columbia Records  
MAGIC NOTES TRADE MARK

- and on the Reverse Side -  
**JOHN PEEL**  
Sung by  
**850 VOICES**

# Another Record!



123712416  
48131572  
56031902  
011182023  
251629305  
2316816235

Ask for  
N<sup>o</sup>4295

ON SALE  
BY THE  
LEADING  
DEALERS.

## Edison Bell Winner Record

2/6

51 53 54  
52 55  
57 58  
58 60  
61 62 63 64  
69 72 73 75 81  
70 71 72 77 79 82  
11 76 85 86 82  
83 84 86 00 39 12  
88 95 96 00 29 11 12  
89 08 19 67 75 12

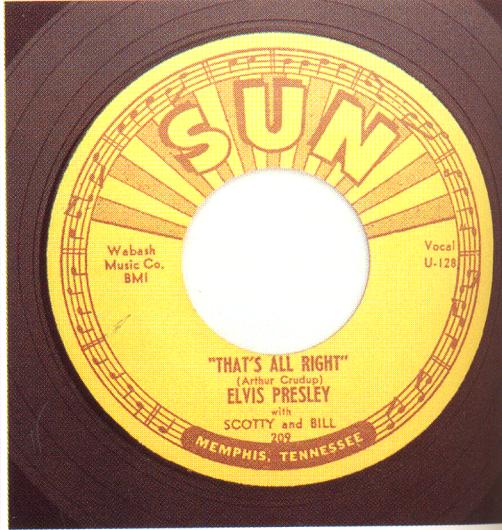
One long PEAL of laughter &  
A Really FAITHFUL Reproduction.

The most astounding record of the season. A wonderful piece of realism. Not only do you get the massed volume of the voices but the real atmosphere of a football field as well.

No mechanical blatancy but a faithful "stereoscopic" reproduction—each voice is recorded so distinctly that you can almost hear separately the whole FOUR THOUSAND EIGHT HUNDRED AND FIFTY-ONE odd voices—and it sounds like more.

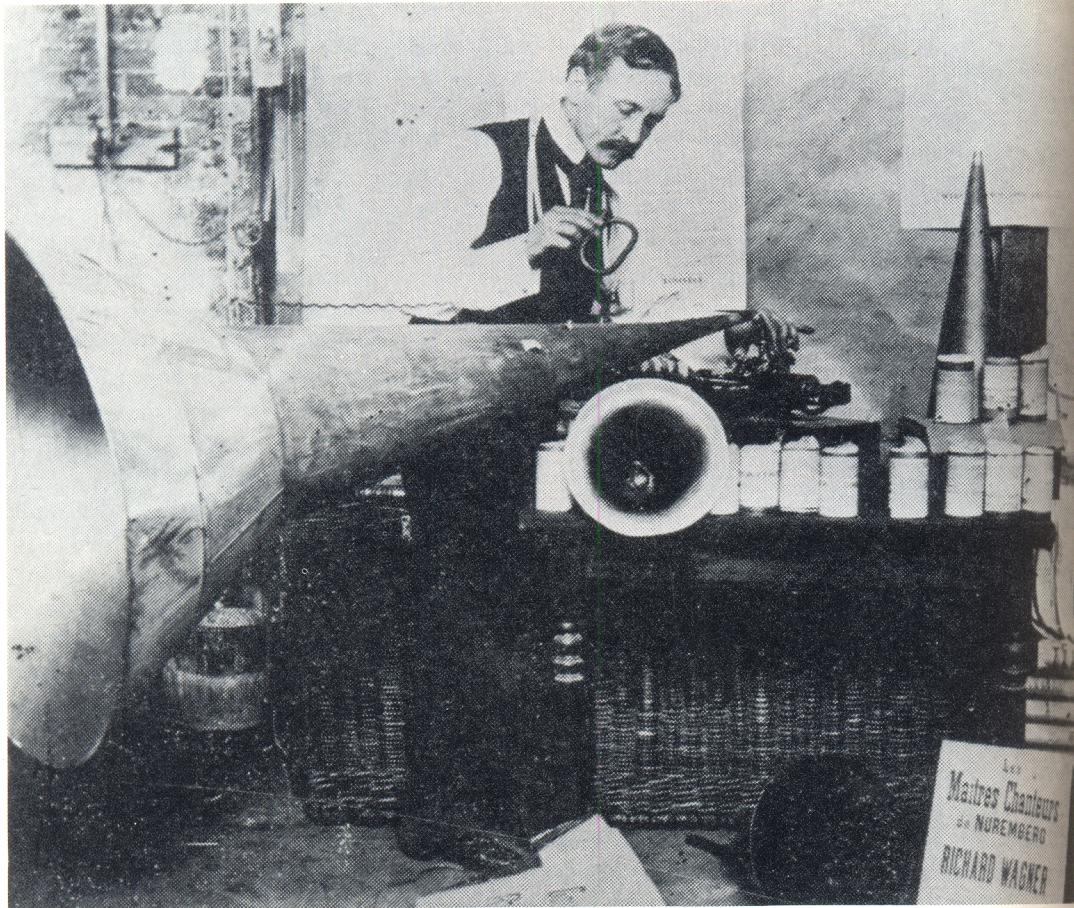
# J.E.HOUGH Ltd. Edison Bell Works, London, SE15.

Use CHROMIC Needles on ALL Your Records.



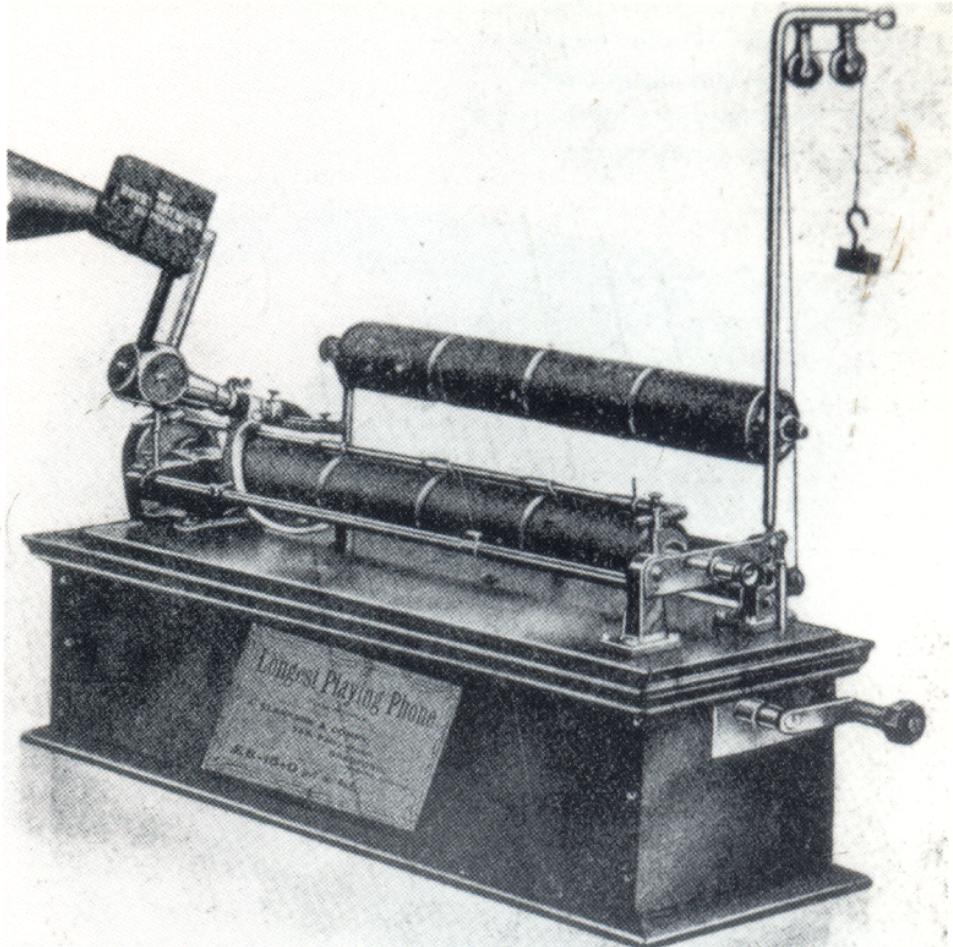
42 Which copy of this 1955 record by Elvis is original, and which is a forgery? A genuine one always has three tiny depressions one-quarter of an inch in diameter close to the centre-hole. (You need oblique light to show them; there is one beneath the bottom right of the letter U of SUN, for example). This is because the original master-lacquer had three extra drive-holes, which had to be filled in before the stampers could be made. Master-lacquers don't normally have extra drive-holes, and this point was missed by the first forgers. But since then, other forgeries have appeared complete with drive-hole marks.

techniques; but it is the exception which proves the rule. The 1955



43 Lionel Mapelson, photographed backstage at the Metropolitan Opera House, New York. Using this giant horn, he captured live operatic performances on cylinders during the years 1900 - 1902.

44 Longest-playing phone.  
A machine dating from  
1908 which was designed to  
give eight minutes of  
reproduction from cylinder  
records.



45 The Edison 'Voice Writer' machine.  
Designed for office dictation use, this  
machine followed Edison's preferred  
method of using electricity for the motor,  
but it had acoustic recording and  
reproduction.



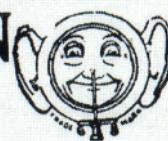


46 A Lioretograph.

47 The Columbia  
Multiplex Grand  
Phonograph.



# RECORD-BREAKING MARATHON RECORDS.



**16 minutes 25 seconds**

Is the playing time of  
**12-inch disc No. 2042.**

**Mr. T. KINNIBURGH. Basso. Piano Accomp.**

**2042.** (a) True Till Death ; (b) In Cellar Cool.

(a) Rocked in the Cradle ; (b) In Sheltered Vale.

OUR complete songs, two on each side, reproduced with that wonderful naturalness which has resulted in "Marathon" Records being described as "The Records with the Soul Preserved." The actual playing times at 80 revs. per minute are :—

"True Till Death" 3 min. 55 seconds.

"In Cellar Cool" 4 minutes 30 seconds.

"Rocked in the Cradle" 3 minutes 45 seconds.

"In Sheltered Vale" 4 minutes 15 seconds.

**12 minutes 25 seconds**

On a **10-inch** disc is an equally marvellous achievement in recording. This is the playing time of 10-inch No. 388.

**Mr. T. KINNIBURGH. Basso. Piano Accomp.**

**388.** The Bellringer.

The Village Blacksmith.

The actual times at 80 revs. per minute are :—

"The Bellringer" 6 minutes 40 seconds.

"The Village Blacksmith" 5 minutes 45 seconds.

THESE amazing records are absolutely unequalled as a recording achievement. They conclusively prove that not only does the purchaser of "Marathon" Records get more music, but he gets infinitely better music.



49 World record controller. This is the mechanism on the left of the picture. In this case, it has been fitted to an HMV Gramophone; it controls the rotational speed of the disc so it runs slowly when the soundbox is at the outside edge, and allows the record to speed up towards the inner radius.

cut one in half. He showed us the section, which comprised a core

50 A twenty-inch Pathé disc. This example plays for 3 minutes 10 seconds and weighs 2.2 kilograms.

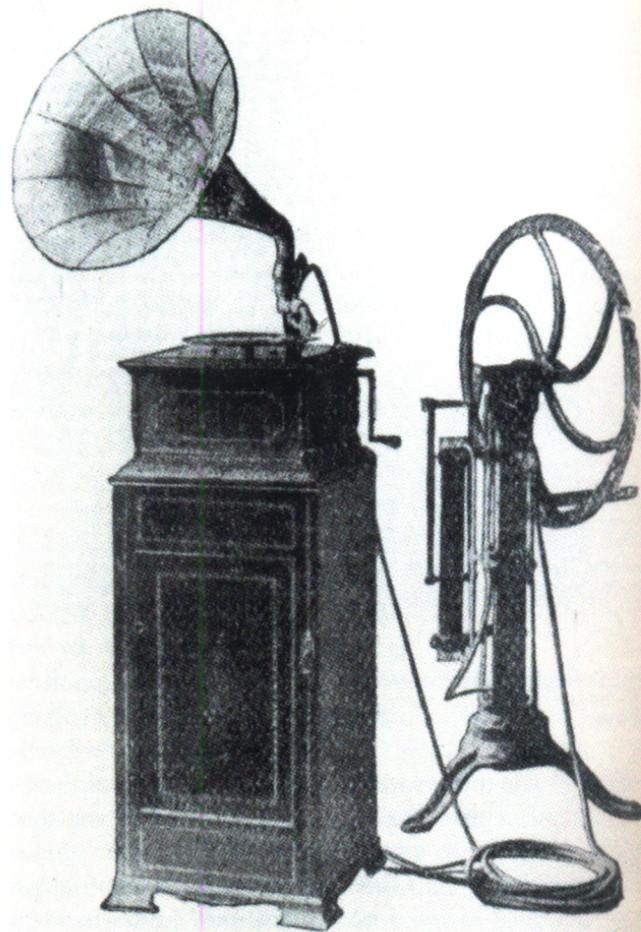


51 Doll's House Disc. On this example, Peter Dawson's rendition of 'God Save The King' plays for 22 seconds. It weighs 200 milligrams.



52 Gramophone with Auxetophone attachment.

This model has a hand-pump for the amplifier. Since the turntable had a clockwork winding mechanism and the air-pump demanded continuous cranking while the disc played, you had to be fit to play a record!





53 An unusual record combining the qualities of a 'picture disc' (on the back), with a special label design (on the front).

54 An Edison-Bell Picturegram of 1927, an early attempt at audio-visual entertainment. The record tells a story, complemented by a picture scroll. The machine was easy to damage and was not a huge success.

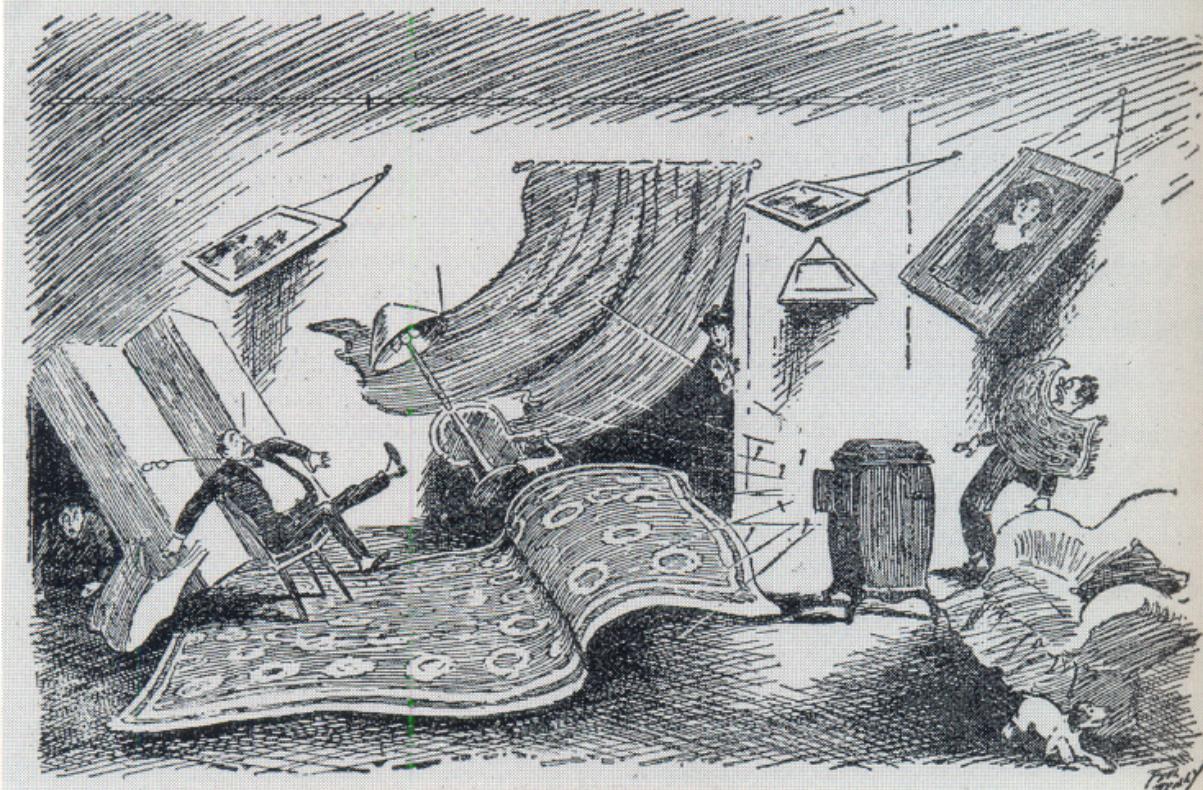


55 An example of evocative advertising used to sell the Edison Amberola Phonograph (see also back cover).



THE DEAR OLD "HEART SONGS," PLAYED ON THE EDISON, RECALL TO GRANDMOTHER AND  
GRANDFATHER THE DAYS WHEN THEY WERE YOUNG

WHY NOT PLAY YOUR RECORDS "SYMPATHETIC"—ALLY?



56 An advertisement from *The Sound Waves* — demonstrating the dangers of distortion from using the wrong needle, or the benefits of being 'blown away' by use of the right needle !

A suggested argument for the Edison Bell Sympathetic Chromic Needle.  
—By courtesy, "Judge," New York.

# An Event...

## ATTENTION!

This motion picture will be shown in the startling new multi-dimension of

## SENSURROUND

Please be aware that you will feel as well as see and hear realistic effects such as might be experienced in an actual earthquake.

We assume no responsibility for the physical or emotional reactions of the individual viewer.

Starring

CHARLTON HESTON

AVA GARDNER • GEORGE KENNEDY

LORNE GREENE • GENEVIEVE BUJOLD • RICHARD ROUNDREE

Co-starring MARJEE GORTNER • BARRY SULLIVAN • LLOYD NOLAN • VICTORIA PRINCIPAL

Written by GEORGE FOX and MARIO PUZO Music by JOHN WILLIAMS Produced and Directed by MARK ROBSON

Executive Producer JENNINGS LANG • A MARK ROBSON-FILMMAKERS GROUP PRODUCTION

A UNIVERSAL PICTURE • TECHNICOLOR • PARAMOUNT • SCA-1  
DISTRIBUTED BY CINEMA INTERNATIONAL CORPORATION S

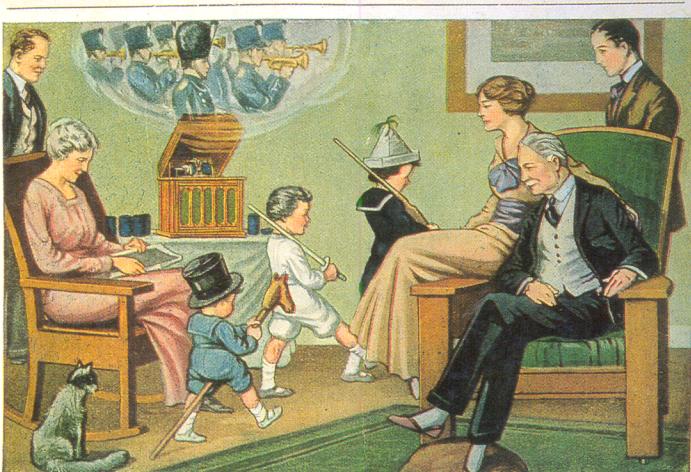


57 Sensationalist promotion of a new film and a new experience.

extended by the 'Sensurround' system (57). This was a powerful low-frequency sound system which blasted the audience with low-frequency pulses and physically shook them. In conjunction with suitably unsteady camerawork, the effect aimed to recreate the



22 HEN they go back to the "studio" after dinner they find that Daddy has put the gramophone and some nice records there. "How jolly!" says Steve ; "now we can have a RECORD TIME." They move the mike close to the gramophone, and then each in turn chooses a favourite record to be put on ; and they pretend that millions of people are enjoying the programme, listening to some of the dear old tunes that everybody likes.



THE POSSESSION OF AN EDISON WILL MAKE YOUR HOME LIKE THIS. HOW CAN YOU  
AFFORD TO BE WITHOUT ONE?

Sound recording has been with us for over a hundred years, and its impact on communication in the 20th century has been enormous.

In this stimulating survey of the history of sound recording, from the work of the earliest pioneers to the latest developments in the industry, Peter Copeland discusses the recordings themselves and the artistic and commercial considerations that have shaped them, addressing technical issues in an accessible manner, with many illuminating anecdotes.

Illustrated with over 60 colour and black-and-white photographs drawn from the collections of the National Sound Archive, *Sound Recordings* is a lively and informative introduction to the subject for record collectors and enthusiasts and anyone with an interest in the background to the music and film industries.

Peter Copeland is a recording engineer and is Conservation Manager at The British Library National Sound Archive.

THE BRITISH LIBRARY

£ 6.95

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